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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,616	09/08/2003	Wen-Chin Lee	TSM03-0587	1051
43859 75	90 05/31/2005		EXAMINER	
SLATER & MATSIL, L.L.P. 17950 PRESTON ROAD, SUITE 1000			SCHILLINGER, LAURA M	
	DALLAS, TX 75252		ART UNIT	PAPER NUMBER
			2813	

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. 1. Extensions of time may be available under the provisions of 3° CFR 1.35(a), in no event, however, may a neply be timely filed 1. Extensions of time may be available under the provisions of 3° CFR 1.35(a). The ovent, however, may a neply be timely filed 1. If the period for reply specified above is less than thinty (30 days, a neply within the statutory minimum of thinty (30) days, will be considered timely. 1. If the period for reply specified above is less than thinty (30) days, a neply within the statutory minimum of thinty (30) days, will be considered timely. 1. If the period for reply specified above is less than thinty (30) days, a neply within the statutory minimum of the mailing date of this communication. 2. Application is final. 2. Disposition of Claims 2. Disposition of Claims 4. Status 2. Disposition of Claims 4. Claim(s) 1.59 [s/are pending in the application. 4. Application is a price objected to be seen that the period of the above claim(s) 1.21 and 39-58 [s/are withdrawn from consideration. 5. Claim(s) 1.59 [s/are allowed. 6. Claim(s) 1.59 [s/are pending in the application. 4. Application Papers 9. The specification is objected to by the Examiner. 10. The drawing(s) filed on 1.59 [s/are allowed. 2. Claim(s) 1.59 [s/are pending in the drawing is accepted or b) objected to by the Examiner. Application Papers 9. The specification is objected to by the Examiner. 10. The drawing(s) filed on 1.59 [s/are allowed. 2. Application have not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to See 37 CFR 1.121(d). 11. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). 3. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). 3. Acknowledgment is made of a claim f								
### Diffice Action Summary Title MALLING DATE of this communication appears on the cover sheet with the correspondence address		Application No.	Applicant(s)					
Laura M. Schillinger 2813 2816 2816 2816 2817 2816 2817 2818 28		10/657,616	LEE ET AL.	(lin)				
Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ② MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ③ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. Education of other map be available under the provisions of 3°CER 1.13(6). In no event, however, may a reply be limely filled to the period for reply superfiled above to less than shirty (30) days, will be considered friendy. If the period for reply superfiled above to less than shirty (30) days, will be above to make the period for reply value of the period for the period for the period for the period for formal matters, prosecution as to the merits is closed in accordance with the practice under Exparte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4) Claim(s) 1-9 is/are allowed. Paper and period for the period for per	Office Action Summary	Examiner	Art Unit					
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DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of claims 22-38 in the reply filed on 3/14/05 is acknowledged. The traversal is on the ground(s) that claim 22 is generic to the remaining claims. This is not found persuasive because claim 22 is not generic, the allowability of claim 22 would have no bearing on the separate species identified in the Examiner's original restriction requirement because they are all patentably distinct from each other.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-22, 39-58 are withdrawn from further consideration pursuant to 37 CFR
-1.142(b), as being drawn-to-a nonelected-claims, there being no allowable generic or
linking claim. Applicant timely traversed the restriction (election) requirement in the
reply filed on 3/14/05.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 22-24, 26-27, 29, 31-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Koester et la (US 2004/0164373 A1).

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In reference to claim 22, Koester teaches a structure comprising:

A semiconductor substrate (page 2, {0018];

A first crystalline layer on the substrate (layer 10- note it is crystalline due to its disclosed tensile strain caused in layer 20- page 2 (0018));

A second crystalline layer on the first layer (layer 20- note it has a tensile strained state due to the lattice mismatch of underlying layer 10);

A trench formed in the second layer (trench- page 2 (0018)); and

A top epitaxial layer on the second layer (Fig.1 B (layer 20) and latter part of paragraph 0018)).

In reference to claim 23, Koester teaches wherein upper and lower corners of the trench are rounded (page 1 (0005)).

In reference to claim 24, Koester teaches wherein the upper corners of the trench are rounded (page 1 (0005)).

In reference to claim 26, Koester teaches wherein the trench has a depth of 6000 A or less (page 3 (0021)).

In reference to claim 27, Koester teaches wherein the rounded corners are formed by heating the second layer in a gaseous ambient (0004-thermal oxidation).

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In reference to claim 29, Koester teaches wherein the gaseous ambient includes O (0004-thremal oxidation).

In reference to claim 31, Koester teaches wherein the trench contains an insulative material comprising silicon oxide (layer 50- Page 2 (0018)).

In reference to claim 32, Koester teaches wherein the top layer is less than 250 A thick (page 2 (0021).

In reference to claim 33, Koester teaches wherein the first second and top layers comprise Si, Ge, C or a compound semiconductor (page 2 (0018)).

In reference to claim 34, Koester teaches wherein the first second and top layers comprise Si and Ge (page 2 (0018))

In reference to claim 35, Koester teaches wherein

A lattice of a material of the first layer is mismatches with the lattice of the substrate;

A lattice of a material of the second layer is mismatches with the lattice of the first layer

(page 2 (0018)-tensile strain).

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In reference to claim 36, Koester teaches wherein the lattice of a material of the top layer is mismatches with the lattice of the second layer (page 2 (0018)).

In reference to claim 37, Koester teaches wherein a free surface of one or more layers is planarized before a next superjacent layer is present thereon (page 3 (0025- polishing).

In reference to claim 38, Koester teaches wherein planarization is effected by CMP (page 3 (0025)).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 25 and 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koester et al (2004/0164373) as applied to claim 22 above, and further in view of Chang et al ('224).

In reference to claim 25, Koester teaches the limitations of claims 22-24 however fails to explicitly teach wherein the radii of the corners are from 5 to 50 nm nor does Koester specify wherein heating is effected at a temperature within the range of 700 to 950 degrees C...

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However, Chang et al ('224) teaches a similar structure wherein the radii of the corners are from 5 to 50 nm (Co1.5, lines: 25-30) and further teaches wherein heating is effected at a temperature within the range of 700 to 950 degrees C (Col.5, lines: 20-25).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Koester to further include a thermal oxidation temperature of 700-950 degrees and a radii as taught by Chang because both teach to implement thermal oxidation to produce curved trench corners and would produce a similar curved radius.

Claims 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koester et al (2004/0164373), and Chang et al (224) further in view of Jang et al (566).

In reference to claim 30, Chang and Koester teach a thermal oxidation to produce rounded corners in a trench, however fail to explicitly teach heating (thermally oxidizing) with a pressure between 10 and 1000 Torr.

Jang however teaches thermal oxidation at a pressure between 10 and 1000 Torr (Col.8, lines: 55-60).

Therefore it would have been obvious to one of ordinary skill in the art to employ a thermal oxidation method including a pressure as taught by Jang since as Jang teaches such pressure is effective in forming an oxide layer (Col.8, lines: 50-61).

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura M. Schillinger whose telephone number is (571) 272-1697. The examiner can normally be reached on M-T, R-F 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl W. Whitehead, Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

5/25/05

Laura M Schillinger Primary Examiner Art Unit 2813